CLAIMS

1. An optical preamplifier with received signal strength indicating function comprising:

an amplifier stage having a signal input, two signal output terminals, a power input terminal, and a return terminal; and

a photodiode having one terminal coupled to the signal input of the amplifier stage and a second terminal coupled through a resistance to one of the two signal output terminals so as to provide the received signal strength indicating function between the two signal output terminals.

2. An optical preamplifier with received signal strength indicating function as claimed in claim 1 wherein the received signal strength indicating function between the two signal output terminals appears as a DC offset.

3. An optical preamplifier with received signal strength indicating function as claimed in claim 1 wherein the photodiode is a PIN diode.

4. An optical preamplifier with received signal strength indicating function as claimed in claim 1 wherein the optical preamplifier is formed as an integrated circuit.

5. An optical preamplifier with received signal strength indicating function as claimed in claim 1 wherein the resistance is a resistor.

6. An optical preamplifier with received signal strength indicating function comprising:

an amplifier stage including cascaded amplifiers and a current mode output stage with Darlington pair transistors, the amplifier stage having a signal input to the cascaded amplifiers, two signal output terminals from the Darlington pair transistors, a power input terminal, and a return terminal; and

a PIN photodiode having one terminal coupled to the signal input of the amplifier stage and a second terminal coupled through a resistance to one of the two signal output terminals so as to provide the received signal strength indicating function between the two signal output terminals.

7. An optical preamplifier with received signal strength indicating function as claimed in claim 6 further including a dual input current limiting amplifier having the dual inputs coupled to two signal output terminals of the Darlington pair transistors.

8. A method of providing an optical preamplifier with a received signal strength indicating function without increasing the number of leads comprising the steps of:

providing an amplifier stage having a signal input, two signal output terminals, a power input terminal, and a return terminal; and

coupling one terminal of a photodiode to the signal input of the amplifier stage; and

coupling a second terminal of the photodiode through a resistance to one of the two signal output terminals so as to provide the received signal strength indicating function between the two signal output terminals.

9. A method as claimed in claim 8 including a step of measuring the received signal strength indicating function as a DC offset between the two signal output terminals.